



# Supporting Early Numeracy

Mrs Lynch

May 2022

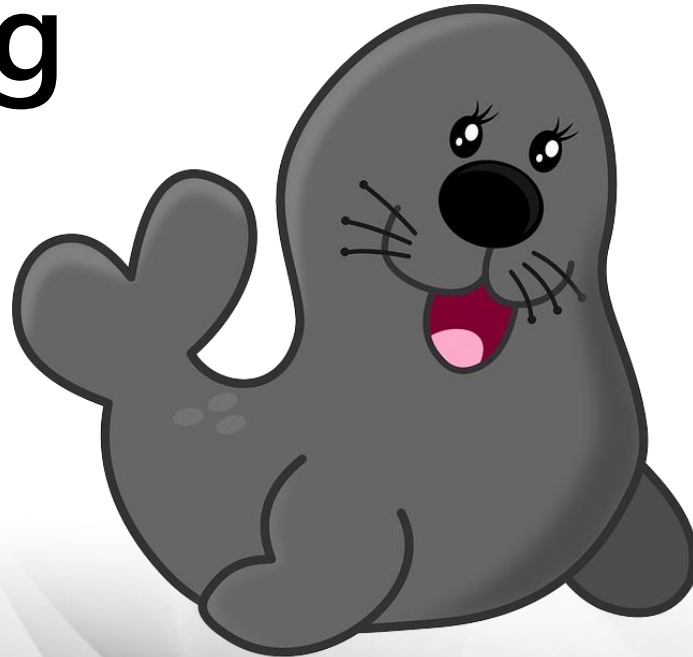
**LIVE**  
**LEARN**  
**WORK**  
**INVEST**  
**VISIT**

# Today we will cover...

- Methodologies for teaching early numeracy
- Practical examples of how to help at home
- Ways to encourage young mathematical mindsets
- How to make maths fun 😊

# Stages of Early Arithmetical Learning

A model which highlights significant shifts in children's early mental structures regarding counting.



# What is SEAL?

- **SEAL sets out a progression of the strategies children use in early number situations.**
- **It consists of a clear progression through stages in children's development of early arithmetical strategies.**
- **SEAL focuses on children's own understanding of number thus developing sound counting strategies that are based on understanding rather than processes.**

# What are we Teaching?

- **Counting** – *forward/backward number word sequences*
- **Numerals** – *recognition, identification, sequencing, ordering*
- **Number Structures** – *patterns, partitioning, combining etc.*
- **Addition and Subtraction** - *missing addend*
- **Multiplication and Division** – *grouping, sharing*

# Counting – *forward/backward* *number word sequences*

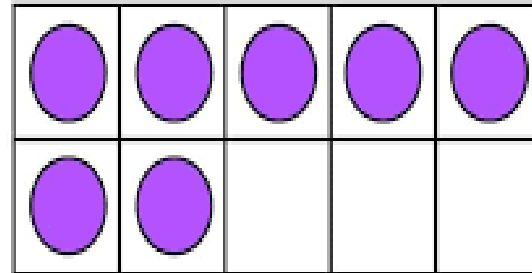


# Numerals – *recognition, identification, sequencing, ordering*

Ordering Numbers 1 – 10  
Can you order the numbers from the smallest to the biggest?







1						10
4						9
6	8	5	7	2	3	

# Number Structures – *patterns, partitioning, combining etc.*



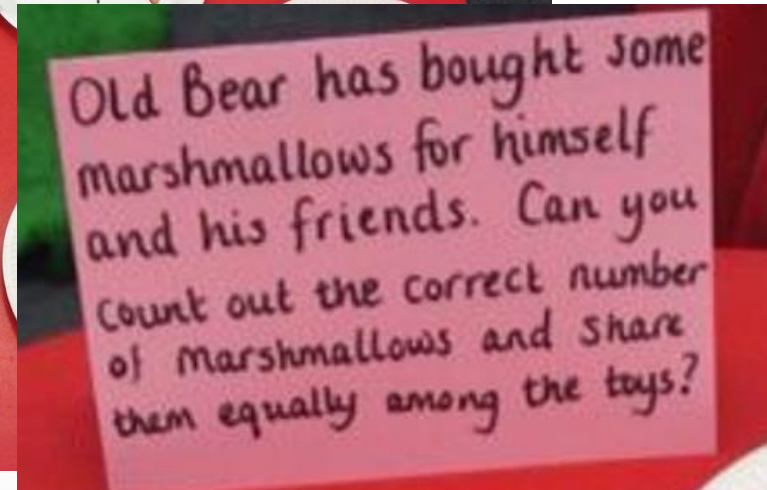
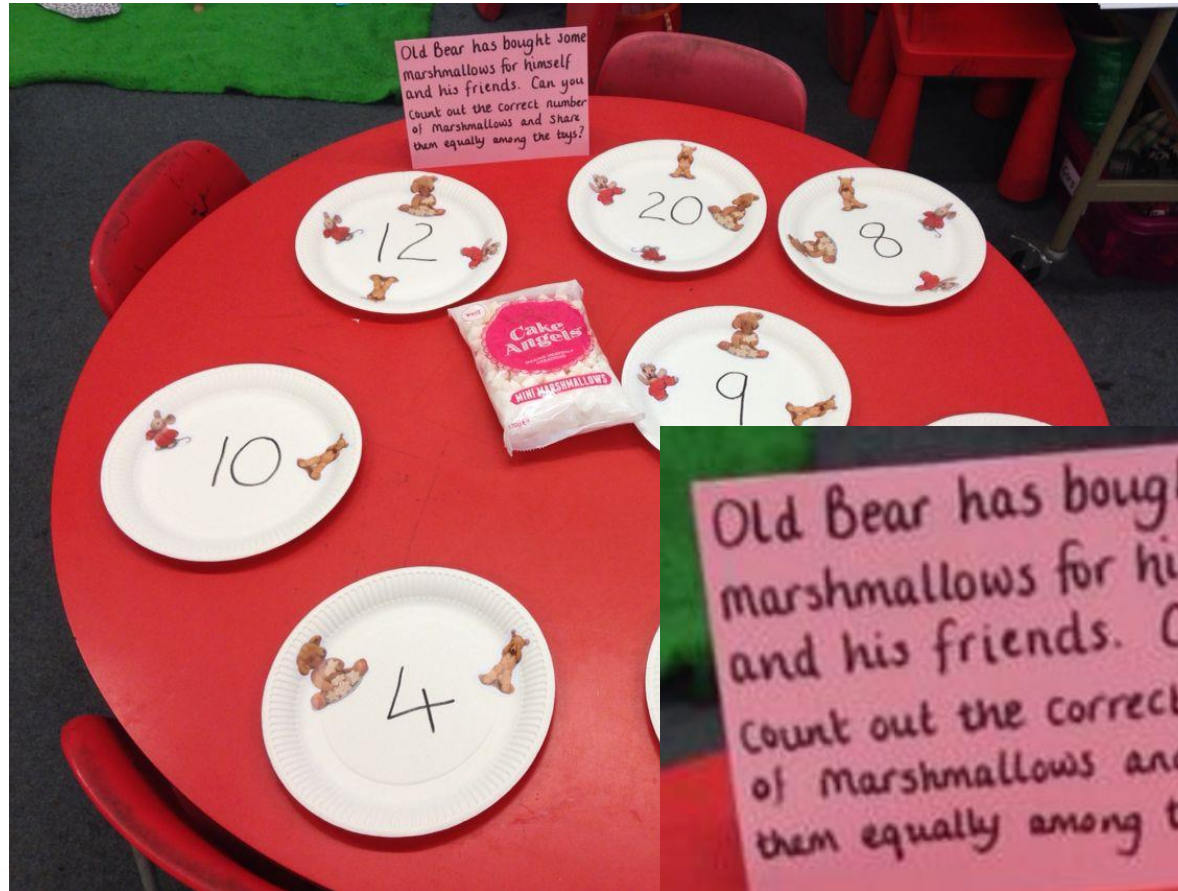


# Addition and Subtraction - *missing addend*

<p>3 + <input type="text"/> = 9</p> <p>Can you find the missing number?</p> 	<p>5 + <input type="text"/> = 9</p> <p>Can you find the missing number?</p> 	<p>3 + <input type="text"/> = 5</p> <p>Can you find the missing number?</p> 
<p>7 + <input type="text"/> = 10</p> <p>Can you find the missing number?</p> 	<p>9 + <input type="text"/> = 10</p> <p>Can you find the missing number?</p> 	<p>8 + <input type="text"/> = 9</p> <p>Can you find the missing number?</p> 

Ink saving Eco

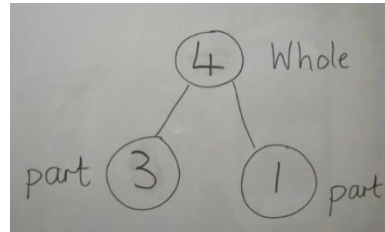
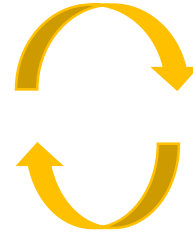
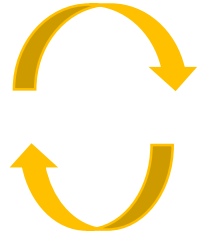
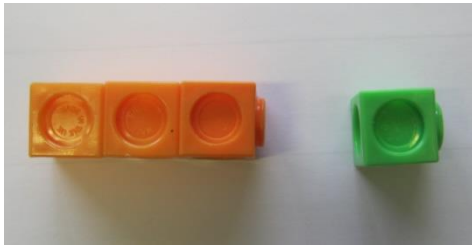
# Multiplication and Division – *grouping, sharing*



Concrete

Pictorial

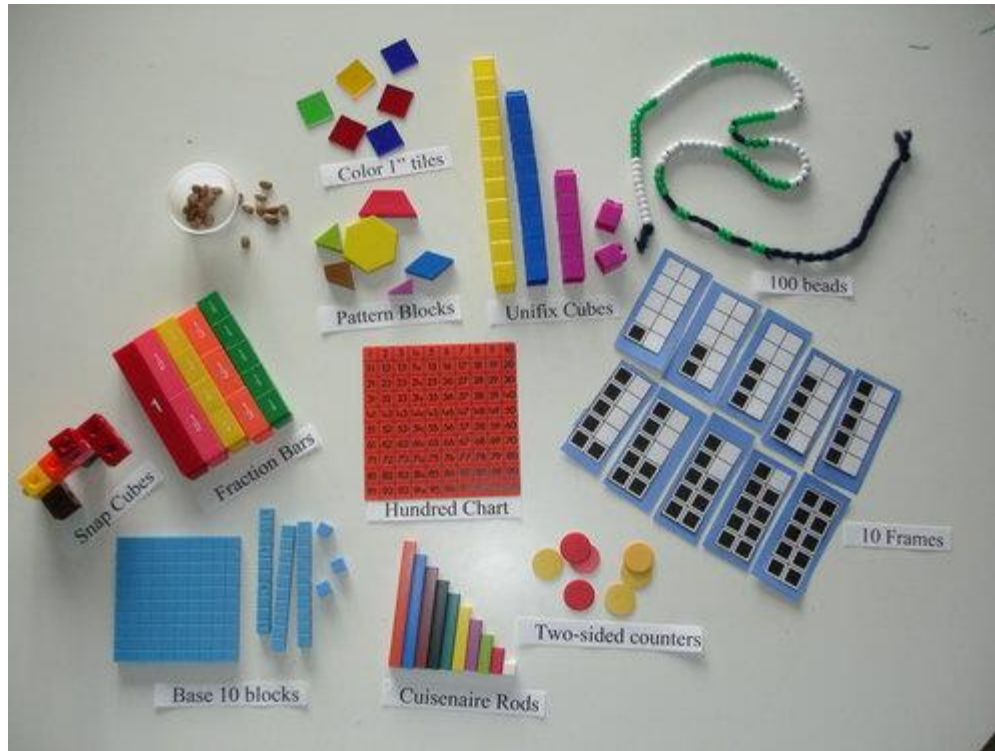
Abstract



$$3 + 1 = 4$$

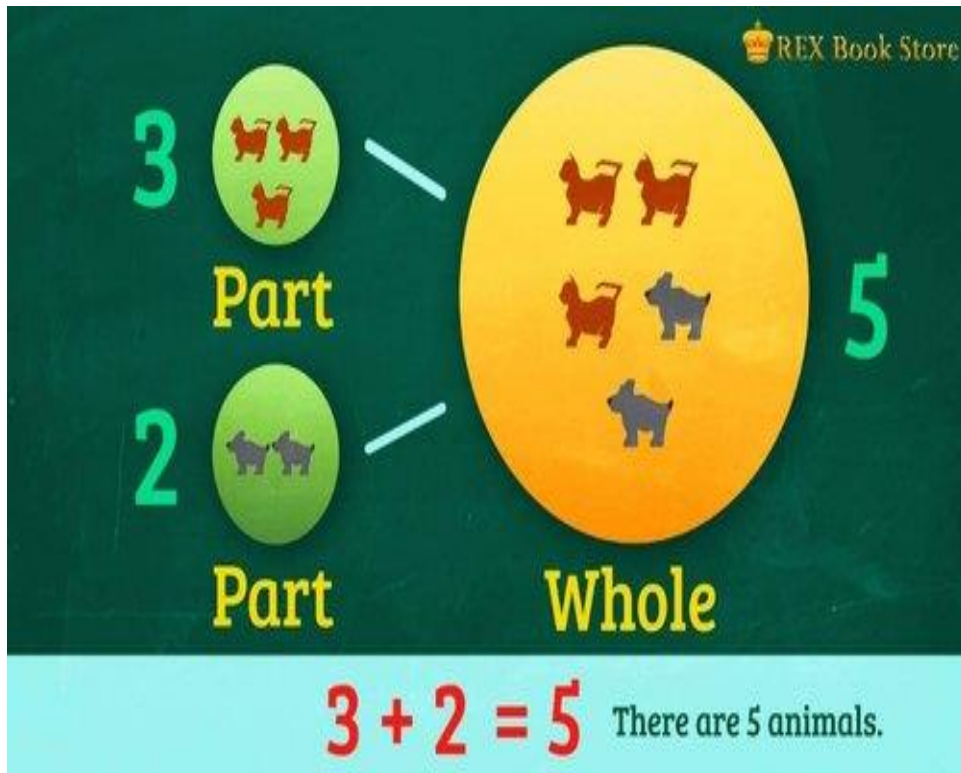



















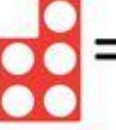

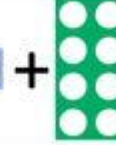

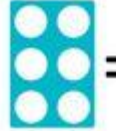

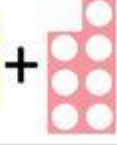
Concrete or pictorial representations support students to understand abstract concepts



## CONCRETE

We use concrete apparatus such as bead strings, tens frames and counters, base 10 (dienes) and much more so that the children have a hands on approach and can really see what is happening with the numbers they're using.



 +  =	 +  =
 +  =	 +  =
 +  =	 +  =
 +  =	 +  =
 +  =	 +  =
 +  =	 +  =

## PICTORIAL

We use a lot of models and images to help the children move on from the concrete objects.

## Partitioning method

$$500 + 100 = 600$$

$$60 + 90 = 150$$

$$7 + 9 = 16$$

$$600 + 150 + 16 = 766$$

$$10 + 8 =$$

$$11 + 7 =$$

$$12 + 6 =$$

## ABSTRACT

Once the children have manipulated concrete objects and investigated the relationships between numbers through models and images they should be confident to tackle more abstract calculations.





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# Numeracy: Developing Positive Attitudes

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# How do you feel about maths?

Why do you think that is?



# Talking positively about maths

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*“I was never any good at maths at school and it did me no harm.”*

## Positive Alternative:

“I found maths hard at school too, but it is really useful when I do X, Y, Z”

“I thought I’d never be good at maths, but I tried hard and I got there eventually”

“I struggled with maths at school, but I believe you can do it”

“Sometimes things are hard, but that’s when we are learning the most”

“I’m trying to improve too, we can do it together”

# Talking positively about maths

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*“You wont need to worry about maths once you’ve finished school.”*

**“Maths might be different in the real world, but everyone uses it all the time”**

**EXAMPLES – referring back to the previous activity**

**“We’ve used lots of maths today, just like.....”**

**Linking the thing their struggling with to the real world**

# Talking positively about maths

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*“It’s ok you can’t be good at everything.  
You’re better at literacy, your brother is  
more of a maths-y person.”*

Putting people into boxes reinforces beliefs about themselves – limits what they go on to do

People find different things hard – but everyone can get better at maths

Just because you like reading, doesn’t mean you can’t like maths and vice versa

Comparing might not be useful

Maybe the children could help each other – maybe work on FMT together

There isn’t such thing as a maths person – being told this has affected adults – examples from adults who remember comments like this

Gender – no reason to believe boys are better than girls

# Talking positively about maths

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***“Well done for getting that right. You’re so clever.”***

**Praising children is a good thing**

**The statement praises perceived talent rather than effort**

**Telling them that the reason that have done something well is intelligence does not prepare them well for when things are hard – which everyone will find sometimes**

**Praise them in a way that talks about hard work, persistence and effort**

**“Well done for working that out”**

**“Well done for keeping on going with that”**



children counting objects



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### Teach your child how to count objects - YouTube



<https://www.youtube.com/watch?v=k9dlnaEzCI4>

20 Dec 2009 - Uploaded by unthinkgenius

This short video demonstrates 4 skills that children need to be able to count objects.

### Counting Objects- Kindergarten learning videos - YouTube



<https://www.youtube.com/watch?v=DrsIGqN74ro>

17 Jun 2016 - Uploaded by Wisdom Leap

Watch kindergarten videos for Counting Objects. WisdomLeap, a wonderful learning resource for grade k-10 ...

### Counting to 10 Video for Kids - Counting to Ten Objects - YouTube



<https://www.youtube.com/watch?v=xewMVtmk14Q>

5 Mar 2015 - Uploaded by Math & Learning Videos 4 Kids

In this Fun Video kids learn to count from 1 to 10 and compare each number with amounts of objects. Our ...

**Counting songs help to engage the learners and make lessons fun!**

**Check out [youtube.co.uk](https://www.youtube.co.uk)**

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## See It, Say It, Sign It | Letter Sounds| ASL Alphabet | Jack Hart...

119,919,537 views • 3 years ago

See It, Say It, Sign It by Jack Hartmann teaches sign language for each letter and the letter sounds for each letter of the alphabet with American sign language in this Jack Hartmann video. Jack shows the sign for each letter and the letter sounds for each letter as he sings the letter name and the letter is shown on the screen. This version also includes the letter sounds and objects beginning with the letter sound. This is a simple and fun way to learn sign language for each letter of the

New Videos PLAY ALL





## Supporting Early Numeracy at Home



This guide for parents and carers of children aged 3–6 years, is designed to highlight that daily life is bursting with many learning opportunities for your child right from the moment of birth. Whether you are tidying up, getting dressed, going shopping or preparing a meal, you can find valuable learning possibilities for your child everywhere you look.

For more info please see <https://education.gov.scot/parentzone/Documents/EveryDaysLearningDay3to6.pdf>

Numbers and Counting	<ul style="list-style-type: none"> <li>• Count out loud with your child – counting forwards and backwards builds confidence in number order.</li> <li>• Count real objects as you go about your daily routine -cups, socks, shoes, packets. As your child becomes confident in doing this, begin to add and take away. For example 'If I add 3, how many will I have?'</li> <li>• Play number spotting games at home or at the shops and look for numbers on packages, clocks, coins, buses and car registrations. Have fun with numbers and make sequences and patterns together, grouping items into 2s, 5s or 10s.</li> <li>• Use words such as first, second or third to help your child understand and describe the order of things. For example 'Who will be first to be dressed for going out, who will be second?'</li> </ul>
Gathering and Organising Information	<ul style="list-style-type: none"> <li>• Involve your child when recycling and sorting rubbish or old things – talk about the shape and size of the objects as you sort.</li> <li>• Encourage your child to help you with the washing, perhaps by sorting light and dark clothes and programming the washing machine. Your child can also organise the clean clothes by matching the item to the owner. By doing these kinds of chores together, your child develops numeracy skills as they make judgements and estimates about size.</li> <li>• Involve your child as you look at a timetable to plan your journey. Decide together what time you should leave home, when you are likely to arrive, and what number of bus you need to take.</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• At bath time, talk together with your child about the water level rising as you fill the bath. As your child plays in the bath, use different sizes of plastic tubs or containers to compare sizes, for example by asking, 'How many little tubs of water will you need to fill the big tub?'</li> <li>• Involve your child when you are baking and cooking by measuring ingredients using spoonfuls, capfuls or scales. Use language such as more and less/fewer, heavier and lighter to compare amounts.</li> <li>• As you tidy up, encourage your child to arrange toys or books in order of size, width or height, and clothes in order of length or size.</li> <li>• As you sort out the toy box together, ask your child to find things that are shorter, longer, or about the same size.</li> <li>• Encourage your child to guess which glass will hold more juice and then try it out, as this will be fun and increase understanding about volume. Your child will soon discover how containers that are short and fat can hold the same amount as glasses which are much taller and thinner.</li> </ul>
Time	<ul style="list-style-type: none"> <li>• As you go about your routines and tasks, use words that help your child to understand time, such as yesterday, tomorrow, next week, last year and so on.</li> <li>• Point out the time on the clock, particularly at breakfast, dinner or bedtime by noticing and chatting about where the big and little hands are. As your child understands more, they will want to know more.</li> <li>• Use a clock with clear and familiar numbers. Through everyday use and conversation, your child will understand what calendars are used for. Talk about the day, date, month and year. Record appointments on the calendar together and count how many sleeps, days or hours until a birthday or other important event.</li> <li>• Help your child to become aware of time passing, by encouraging your child to notice seasonal changes all around.</li> </ul>
Money	<ul style="list-style-type: none"> <li>• Talk about the names, value, shape, size and colour of coins as you use them.</li> <li>• When shopping, draw your child's attention to the different ways you can pay for things such as using bank cards both in shops and online.</li> <li>• Take an interest in your child planning how they will save or spend pocket or birthday money as this will help to begin, build on, and develop money management skills.</li> </ul>



Denying  
child rights  
is wrong.  
Put it right.

# THE RIGHTS-RESPECTING SCHOOLS AWARD





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## UNICEF UK Rights Respecting School Award

- The RRSA is based on principles of equality, dignity, respect, non-discrimination and participation
- It puts the UN Convention on the Rights of the Child at the heart of a school's ethos and culture to improve well-being and develop every child's talents and abilities to their full potential
- A RRS is a community where children's rights are learned, taught, practised, respected, protected and promoted.



Children learn to take responsibility for themselves and each other



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# Talking about being a Rights Respecting School

- [www.unicef.org.uk/rights-respecting-schools/the-rrsa/what-is-a-rights-respecting-school/](http://www.unicef.org.uk/rights-respecting-schools/the-rrsa/what-is-a-rights-respecting-school/)



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# What is Rights Respecting language?

- Some typical ways we use Rights Respecting language at school.
- **You have the right to an education but you must respect the everyone's right an education and your talking may be distracting them.**
- Some typical ways of using Rights Respecting language at home.
- **You have the right to play but you must respect the family's right to a tidy house and must tidy up your toys afterwards.**
- You have the right to watch the TV but your right to be fed is more important right now and you need to turn the TV off.



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## What impact will it have?

### On our school

- It provides a set of values that improve the environment for learning and behaviour for learning.
- A deeper and more cohesive way of working, building a sense of community within the school.
- Improved relationships with pupils and a reduced hierarchical divide between staff and pupils, due to a common rights-respecting language.



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What impact will it have?

## On our children

- Improved self esteem and feelings of being valued and listened to.
- Increased levels of respect for each other, leading to improved relationships with other pupils and with staff.
- A sense of security as rights-respecting language and behaviour is used consistently throughout the school.
- An understanding and respect of religions, cultures, beliefs and abilities different to their own.
- A wider and deeper understanding of the world in which they live.



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What impact will it have?

## On adults

- Strengthened collaborative working.
- A sense of ownership in developing an approach that meets the needs and aspirations of the school as a whole.
- A sense that the whole school is working towards a common goal, leading to feelings of empowerment for both staff and pupils.
- An understanding and respect of religions, cultures, beliefs and abilities different to their own.
- A platform is developed for parental engagement and discussion.





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## Some examples of Class Charters



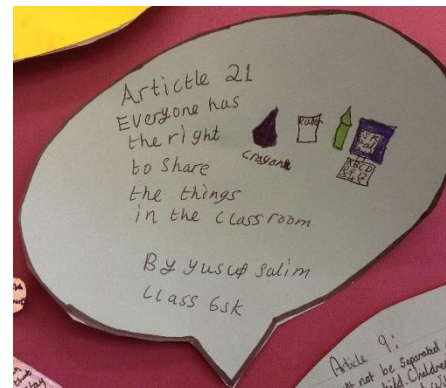


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WE AGREE TO:	ADULTS AGREE TO:
Respect the opinion of others, with our thoughts, words and actions. (Article 12)	Respect the opinion of children, with our thoughts, words and actions.
Take care of one another and play safely at all times. (Article 23)	Listen to, look after and protect each other in our care.
Look after our school environment and keep it clean and tidy. (Article 27)	Make sure that our buildings, playgrounds and classrooms are the best they can be.
Share our games and make everyone feel welcome. (Article 31)	Provide a good range of equipment and encourage safe and enjoyable play.

Tasmin A. Salim, Jada, Jevon



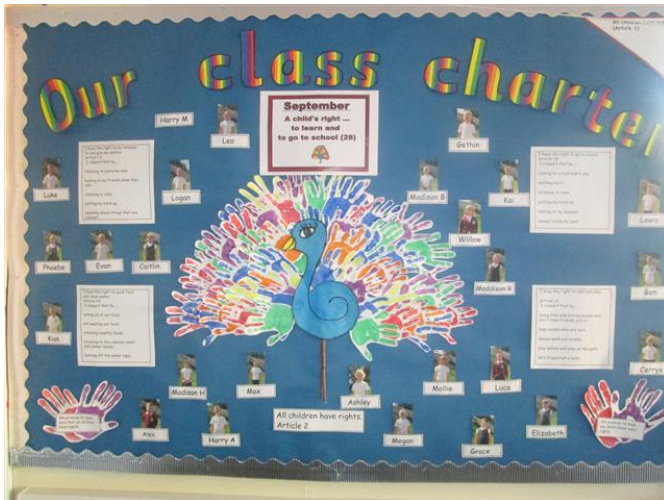
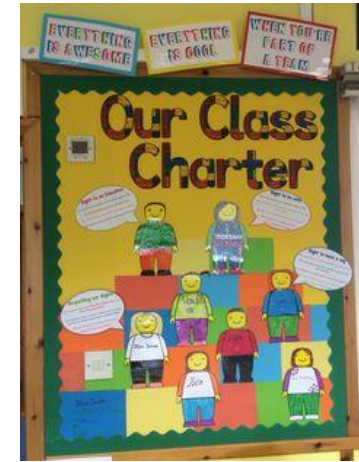


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## Long term goals.

- Teach children what the Convention on the Rights of the Child is.
- Class Charter in every classroom.
- Article of the Week.
- Assemblies.
- Rights Respecting Ambassadors.
- All staff to use the Rights Respecting language .
- Planning – developing language

